What is claimed is:

1. A system for measuring a level of a first fluid in a volume adapted to hold the first fluid and a second fluid located substantially above the first fluid and having a refractive index different than a refractive index of the first fluid, comprising:

a light source adapted to produce light of a first wavelength;

an elongated optical waveguide slab in optical communication with the light source and adapted to be immersed in the first and second fluids, the optical waveguide slab comprising a material adapted to emit light of a second wavelength when exposed to the light of the first wavelength and having a reflective surface oriented at an acute angle in relation of a longitudinal axis of the optical waveguide slab;

a waveguide housing mechanically coupled to the optical waveguide slab and being adapted to direct the light of the first wavelength into the optical waveguide slab at a selectively-variable angle so that (i) a substantial entirety of the light of the first wavelength is internally reflected within a portion of the optical waveguide slab located above the interface of the first and second fluids and (ii) a substantial entirety of the light of the first wavelength is transmitted into the first fluid from a portion of the optical waveguide located below the interface of the first and second fluids; and

a photo-multiplier tube optically communicating with the optical waveguide slab and adapted to generate an electrical output in response to the light having the second wavelength.

2. The system of claim 1, wherein the reflective surface is oriented at an angle of approximately 45 degrees in relation of a longitudinal axis of the optical waveguide slab.

3. The system of claim 1, further comprising an optical fiber mechanically coupled to the light source and the waveguide housing and being in optical communication with the light source and the optical waveguide slab.

4. The system of claim 3, further comprising a light pipe, wherein the waveguide housing has a through hole formed therein and the through hole is adapted to receive the light pipe so that the light pipe is in optical communication with the optical fiber and the optical waveguide slab.

5. The system of claim 4, further comprising a collimating lens in optical communication with the light source and mechanically coupled to the optical fiber, wherein the waveguide housing has a bore formed therein and adjoining the through hole, the bore being adapted to receive at least a portion of the collimating lens assembly.

6. The system of claim 4, wherein a position of an end of the optical fiber is selectively variable in relation to the light pipe.

7. The system of claim 1, further comprising a filter in optical communication with the optical waveguide slab and the photo-multiplier tube, wherein the filter is adapted to substantially block the passage of the light of a wavelength other than the second wavelength.

8. The system of claim 7, further comprising a lens in optical communication with the filter.

9. The system of claim 8, further comprising a lens housing mechanically coupled to the waveguide housing and having a passage formed therein, the passage being adapted to receive the lens and the filter.

10. The system of claim 9, further comprising an output connector assembly at least partially disposed in the passage, and an optical fiber mechanically coupled to the output connector assembly and the photo-multiplier tube.

11. The system of claim 10, wherein the lens is adapted to focus the light of the second wavelength on an end of the optical fiber.

12. The system of claim 1, further comprising a means for processing the electrical output of the photo-multiplier tube.

13. The system of claim 1, wherein the light source is a lighted electronic diode.

14. The system of claim 10, wherein a position of an end of the optical fiber is selectively variable in relation to the lens.

15. The system of claim 10, wherein the system comprises not more than one of the optical fibers mechanically coupled to the output connector assembly and the photo-multiplier tube.

16. The system of claim 10, wherein the system comprises not more than one of the optical fibers mechanically coupled to the light source and the waveguide housing and being in optical communication with the light source and the optical waveguide slab.

17. The system of claim 10, wherein the output connector assembly is selectively positionable within the lens housing so that a distance between the lens and the end of the optical fiber is selectively variable.

18. The system of claim 1, further comprising a second reflective surface located at a bottom of the optical waveguide slab.

19. The system of claim 1, further a means for dampening vibration of the optical waveguide slab.

20. The system of claim 1, wherein the reflective surface forms part of a mirror.

21. The system of claim 3, further comprising a fiber-optic cable comprising the optical fiber.

22. The system of claim 10, further comprising a fiber-optic cable comprising the optical fiber.

23. A system for measuring a level of a fluid, comprising:

a light source adapted to generate light having a predetermined wavelength;

an optical waveguide slab at least partially filled with a material adapted to fluoresce when illuminated by the light having a predetermined wavelength;

a first optical fiber in optical communication with the light source;

a waveguide housing mechanically coupled to the first optical fiber;

a light pipe mounted in the waveguide housing and being in optical communication with the first optical fiber, the light pipe being adapted to transmit the light having a predetermined wavelength to the optical waveguide slab at an angle that causes the light having a predetermined wavelength to be internally reflected only within a portion of the optical waveguide slab located above the fluid thereby illuminating the fluorescent material within the portion of the optical waveguide slab located above the fluid;

a second optical fiber mechanically coupled to the photo-multiplier tube and in optical communication with the optical waveguide slab; and

a photo-multiplier tube in optical communication with the optical waveguide slab and adapted to generate an electrical output in response to the fluorescence of the fluorescent material.

24. The system of claim 23, wherein the waveguide housing is adapted to facilitate selective variation of a distance between an end of the first optical fiber cable and the optical waveguide slab.

25. The system of claim 23, further comprising a lens housing mechanically coupled to the waveguide housing and the second optical fiber, wherein the lens housing is adapted to facilitate selective variation of a distance between the optical waveguide slab and an end of the second optical fiber.

26. The system of claim 24, wherein the optical waveguide housing has a reflective surface therein, the reflective surface being adapted to reflect the fluorescence in a direction substantially perpendicular to a longitudinal axis of the optical waveguide tube.

27. The system of claim 26, wherein the reflective surface forms part of a mirror.

28. The system of claim 23, wherein the system comprises not more than one of the first optical fibers and not more than one of the second optical fibers.

29. A system for measuring a level of a fluid, comprising:

a light source adapted to generate light having a predetermined wavelength;

an optical waveguide slab at least partially filled with a material adapted to fluoresce when illuminated by the light having a predetermined wavelength;

a first optical fiber in optical communication with the light source;

a waveguide housing mechanically coupled to the first optical fiber;

a light pipe mounted in the waveguide housing and being in optical communication with the first optical fiber, the light pipe being adapted to transmit the light having a predetermined wavelength to the optical waveguide slab at an angle that causes the light having a predetermined wavelength to be internally reflected only within a portion of the optical waveguide slab located above the fluid thereby illuminating the fluorescent material within the portion of the optical waveguide slab located above the fluid; and

an optical detector in optical communication with the optical waveguide slab and adapted to generate an electrical output in response to the fluorescence of the fluorescent material, wherein the waveguide housing is adapted to facilitate selective variation a distance between an end of the first optical fiber and the optical waveguide slab.

30. The system of claim 29, further comprising (i) a second optical fiber mechanically coupled to the photo-multiplier tube and in optical communication with the optical waveguide slab and (ii) a lens housing mechanically coupled to the waveguide

housing and the second optical fiber, wherein the lens housing is adapted to facilitate selective variation of a distance between the optical waveguide slab and an end of the second optical fiber.

31. The system of claim 20, wherein the optical waveguide housing has a reflective surface therein, the reflective surface being adapted to reflect the fluorescence in a direction substantially perpendicular to a longitudinal axis of the optical waveguide tube.

32. The system of claim 31, wherein the reflective surface forms part of a mirror.

33. The system of claim 30, wherein the system comprises not more than one of the first optical fibers and not more than one of the second optical fibers.

34. A system for measuring a level of a fluid in a collapsible tank having a top cover adapted to translate upwardly and downwardly in response to variations in the level of the fluid in the tank, and a base, comprising:

a light source adapted to generate light having a predetermined wavelength;

an optical waveguide slab at least partially filled with a material adapted to fluoresce when illuminated by the light having a predetermined wavelength, the optical waveguide being flexible and having a substantially serpentine configuration;

a supporting structure for the optical waveguide slab, the supporting structure being mechanically coupled to the top cover and the base and being adapted to expand and contract in response to upward and downward movement of the top cover;

a first optical fiber in optical communication with the light source;

a waveguide housing mechanically coupled to the first optical fiber;

a light pipe mounted in the waveguide housing and being in optical communication with the optical fiber, the light pipe being adapted to transmit the light having a predetermined wavelength to the optical waveguide slab at an angle that causes the light having a predetermined wavelength to be internally reflected only within a portion of the optical waveguide slab located above the fluid thereby illuminating the fluorescent material within the portion of the optical waveguide slab located above the fluid;

a second optical fiber mechanically coupled to the photo-multiplier tube and in optical communication with the optical waveguide slab; and

an optical detector in optical communication with the optical waveguide slab and adapted to generate an electrical output in response to the fluorescence of the fluorescent material.

35. A system for measuring a level of a fluid in a collapsible tank having a top cover adapted to translate upwardly and downwardly in response to variations in the level of the fluid in the tank, and a base, comprising:

a light source adapted to generate light having a predetermined wavelength;

a flexible optical waveguide slab at least partially filled with a material adapted to fluoresce when illuminated by the light having a predetermined wavelength;

a negator spring mechanically coupled to the optical waveguide slab and the base and biasing the optical waveguide slab so that a portion of the optical waveguide slab between the negator spring and the top cover remains in tension as the top cover translates upwardly and downwardly;

a first optical fiber in optical communication with the light source;

a waveguide housing mechanically coupled to the first optical fiber ;

a light pipe mounted in the waveguide housing and being in optical communication with the first optical fiber, the light pipe being adapted to transmit the light having a predetermined wavelength to the optical waveguide slab at an angle that causes the light having a predetermined wavelength to be internally reflected only within a portion of the optical waveguide slab located above the fluid thereby illuminating the fluorescent material within the portion of the optical waveguide slab located above the fluid;

a second optical fiber mechanically coupled to the photo-multiplier tube and in optical communication with the optical waveguide slab; and an optical detector in optical communication with the optical waveguide slab and adapted to generate an electrical output in response to the fluorescence of the fluorescent material.